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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/361,458 | 07/27/1999 | JONATHAN H. MEIGS | 30-4590 | 5541 |

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EXAMINER

EASTHOM, KARL D

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2832 | |

DATE MAILED: 04/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|---|-------------------------------|------------------------------|
| Office Action Summary | Application No. 09/361,458 | Applicant(s) Meigs et al. |
| | Examiner Karl Easthom | Art Unit 2832 |
|  | | |
| <i>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</i> | | |
| Period for Reply | | |
| A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. | | |
| <ul style="list-style-type: none"> - Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). | | |
| Status | | |
| 1) <input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>4/3/03 and 2/24/03</u> | | |
| 2a) <input type="checkbox"/> This action is FINAL. 2b) <input checked="" type="checkbox"/> This action is non-final. | | |
| 3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11; 453 O.G. 213. | | |
| Disposition of Claims | | |
| 4) <input checked="" type="checkbox"/> Claim(s) <u>11</u> is/are pending in the application. | | |
| 4a) Of the above, claim(s) _____ is/are withdrawn from consideration. | | |
| 5) <input type="checkbox"/> Claim(s) _____ is/are allowed. | | |
| 6) <input checked="" type="checkbox"/> Claim(s) <u>11</u> is/are rejected. | | |
| 7) <input type="checkbox"/> Claim(s) _____ is/are objected to. | | |
| 8) <input type="checkbox"/> Claims _____ are subject to restriction and/or election requirement. | | |
| Application Papers | | |
| 9) <input type="checkbox"/> The specification is objected to by the Examiner. | | |
| 10) <input type="checkbox"/> The drawing(s) filed on _____ is/are a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner. <p style="margin-left: 20px;">Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).</p> | | |
| 11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner. <p style="margin-left: 20px;">If approved, corrected drawings are required in reply to this Office action.</p> | | |
| 12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner. | | |
| Priority under 35 U.S.C. §§ 119 and 120 | | |
| 13) <input type="checkbox"/> Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). <p style="margin-left: 20px;">a) <input type="checkbox"/> All b) <input type="checkbox"/> Some* c) <input type="checkbox"/> None of:</p> <ol style="list-style-type: none"> 1. <input type="checkbox"/> Certified copies of the priority documents have been received. 2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____. 3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). | | |
| <p style="margin-left: 20px;">*See the attached detailed Office action for a list of the certified copies not received.</p> | | |
| 14) <input type="checkbox"/> Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e). <p style="margin-left: 20px;">a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.</p> | | |
| 15) <input type="checkbox"/> Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. | | |
| Attachment(s) | | |
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | | |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | | |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ | | |
| 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ | | |
| 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) | | |
| 6) <input type="checkbox"/> Other: _____ | | |

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Hutchings et al.

Hutchings et al. discloses the claimed invention at col. 1, lines 34-35, 50-56 (copper metal multi layer with alumina and a metal composite), with metal for the composite at col. 2, lines 1-10, (nickel), produced by Electrodeposition. The copper metal layer is shiny where all like metals are “shiny” to an extent.

3. Claim 11 is rejected under 35 U.S.C. 102(e) as being anticipated by Hunt et al. Hunt discloses the claimed invention at the abstract and cols. 22-24 and Fig. 5b. Col. 24, lines 24-67 discloses codeposition of nickel and alumina on a copper. Also, the metal layer is copper 403 at Fig. 5b, with the layer 401 is the electrically resistive composite material, see col. 28, lines 34-43.

That layer is “shiny” on both surfaces where the term is one of degree and all metals are “shiny” to a certain extent. The range is met since the wt % is varied, see col. 25, lines 19-27. The product by process of Electrodeposition does not render the claimed subject matter distinct, where the only previous allegation of any structural difference is that Electrodeposition produces crystalline products, and no recent difference has been alleged. Hunt discloses that crystals are

produced by the CVD process at high substrate temperatures at col. 25, lines 5-30, and at col. 16, lines 33-45.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grazen in view of Dash. Grazen discloses, except the copper metal layer, the claimed invention at col. 7, lines 1-7, with nickel and alumina in the claimed range on an aluminum metal layer. Grazen discloses many plating metals and also a plated steel background as a metal to be coated, see col. 2, lines 55-65. Dash discloses using a copper sheet as the substrate at col. 2, lines 5-20, for a layer to support a similar codeposited mixture of alumina and metals for making electrical contacts, see col. 1, lines 20-25. The same method of codeposition using the same metals are disclosed by Grazen, also for electrical contacts, see col. 2, lines 1-27. It would have been obvious to use any metal layer such as copper, where each uses a similar or same method to deposit the same metals on a wide variety of metal substrates, and each disclose the same articles for such use in order to make a desired article. The “shiny” side is used since all metals are shiny to an extent..

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt et al., in view of XP 182, Grazen, or Dash. (This assumes in the alternative that the process creates a distinct product.) Hunt discloses the claimed invention as noted above except the process. Hunt discloses a similar article to that of XP '182 - a resistor with nonconductive particles immersed in

a metal, placed on a foil for use in a circuit board, disclosing that many types of non-conductive particles can be used to be immersed in a metal background to enhance a resistor. Dash at col. 1, or Grazen at col. 2 disclose the same Electrodeposition method of XP'182 of to form conductive articles such as contacts or electrode coatings having nonconductive insulator particles therein immersed to give the conductor strength and corrosion resistance, and usable on any type of metal layer. Of course, conductors such as that of Dash or Grazen are simply resistors of lower relative resistivity, as is well known and taught at the abstract of XP'182 where the relative amount of non-conductor controls the resistivity. It would have been obvious to form a circuit board as a laminate with a foil of any of the known conductors typically employed for the circuitry, and to use the materials of Hunt for the resistive materials of XP '102 where a similar structure as that of XP '182 is employed to obtain of a high ohmic value, and where Grazen or Dash disclose using the non-conductive particles and metallic conductors of Hunt to produce conductors for abrasion resistance. It is further noted that the non-conductors of Hunt are disclosed at Grazen as good electrically inert particles at cols.1-2 and useful in a process such as that of XP '102 for making conductors stronger and more corrosion resistant..

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over XP '182 in view of Hunt et al. or Grazen. XP '182 discloses the claimed invention at the English translation at pages 8-9 (a multi layer foil having a copper metal layer, with the composite of nickel and boron nitride produced by Electrodeposition), except for the material aluminum oxide in the composite. Hunt discloses a similar composites to that of XP '182 - a resistor with nonconductive particles immersed in a metal, placed on a foil for use in a circuit board, disclosing that many types of non-

conductive particles can be used to be immersed in a metal background to enhance a resistor. Grazen at col. 2 discloses the same Electrodeposition method of XP'182 of to form conductive articles such as contacts or electrode coatings having nonconductive insulator particles therein immersed to give the conductor strength and corrosion resistance, and usable on any type of metal layer. Of course, conductors such as that of Grazen are simply resistors of lower relative resistivity, as is well known and taught at the abstract of XP'182 where the relative amount of non-conductor controls the resistivity. It would have been obvious to form a circuit board as a laminate with a foil of any of the known conductors typically employed for the circuitry, and to use the materials of Hunt for the resistive materials of XP '102 where a similar structure as that of XP '182 is employed to obtain of a high ohmic value, and where Grazen discloses using the non-conductive particles and metallic conductors of Hunt and XP '102 to produce conductors for abrasion resistance. It is further noted that the non-conductors of Hunt are disclosed at Grazen as good electrically inert particles at cols.1-2 and useful in a process such as that of XP '102 for making conductors stronger and more corrosion resistant. The copper is "shiny" where it has been cleaned.

8. Applicant's arguments filed 2/24/03 have been fully considered but they are not persuasive in full, or moot. The argument that a copper shiny side is not disclosed is not persuasive since all like metals are "shiny" to an extent, so that any side would be "shiny". Also, the metals are typically cleaned before deposition so that they are shiny

Applicant alleges that Hunt employs a different process so that the claims are distinct. However, Applicant offer no evidence in the last communication regarding any structural

difference resulting from the method, so the Examiner can only assume there is none. As noted in earlier actions, the burden is applicant's to demonstrate a structural difference. This burden has not been met. (The prior allegations that crystals are produced by Electrodeposition, and different topography and chemical reactions, was addressed by the Examiner in the previous office action. Applicant has not responded to the Examiner's rebuttal. Since both methods produce crystals, applicant's prior arguments do not meet the burden of proving distinctness where there is no evidence or recent allegation as to any structural differences).

See MPEP 2113:

PRODUCT - BY - PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS

"Even though product - by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product - by - process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe* , 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted)....

ONCE A PRODUCT APPEARING TO BE SUBSTANTIALLY IDENTICAL IS FOUND AND A 35 U.S.C. 102 / 103 REJECTION MADE, THE BURDEN SHIFTS TO THE APPLICANT TO SHOW AN UNOBlVIOUS DIFFERENCE

"The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product - by - process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*,180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an UNOBlVIOUS difference between the claimed product and the prior art product.

Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*,195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the

applicant and the prior art are the same, the applicant has the burden of showing that they are not." In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977).

See also Titanium Metals Corp. v. Banner, 227 USPQ 773 (Fed. Cir. 1985) (Claims were directed to a titanium alloy containing 0.2 - 0.4% Mo and 0.6 - 0.9% Ni having corrosion resistance. A Russian article disclosed a titanium alloy containing 0.25% Mo and 0.75% Ni but was silent as to corrosion resistance. The Federal Circuit held that the claim was anticipated because the percentages of Mo and Ni were squarely within the claimed ranges. The court went on to say that it was immaterial what properties the alloys had or who discovered the properties because the composition is the same and thus must necessarily exhibit the properties.).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl Easthom whose telephone number is (703) 308-3306. The examiner can normally be reached on M-Th from 5:30AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad, can be reached on (703) 308-7619. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



KARL D. EASTHOM
PRIMARY EXAMINER